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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Number:	7164470
Issued:	January 16, 2007
Names of Patentees:	Bergendahl, et al.
Title of Invention:	Depth of Field Enhancement for Optical Comparator
Docket No.:	P03068

CERTIFICATE OF MAILING

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Judith Davis
Judith Davis

REQUEST FOR CERTIFICATE OF CORRECTION
UNDER 37 CFR 1.322

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Sir:

Enclosed is a Certificate of Correction for the above-identified issued patent.

The errors in column 6 are Patent Office errors. Correction of these errors is requested under 35 USC 254 and 37 CFR 1.322.

Respectfully submitted,

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Page 1 of 0

PATENT NO. : 7164470

APPLICATION NO.: 10/685.326

ISSUE DATE : January 16, 2007

INVENTOR(S) : Marc Bergendahl, et al.

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Col. 6, line 2
replace "pan"
with --part--.

Col. 6, line 25
replace "tat"
with --that--.

Col. 6, line 49
replace "abject"
with --object--.

MAILING ADDRESS OF SENDER (Please do not use customer number below): 7164470

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Glass water cell **24** has an interior portion with a curved glass bottom **26** that holds the contact lens **25** being inspected. The curved glass bottom **26**, therefore, has refractive properties. The curved glass bottom **26** in the glass water cell **24** performs functions later in the inspection process to allow tipping and removal of the contact lens **25** from glass water cell **24**. It will be understood by those skilled in the art that the corrective condenser lens **15** could also be built into the glass water cell **24**, therefore the preferred embodiment should not be construed in a manner that would limit the scope of the invention which should be measured by the appended claims.

The comparator objective lens **16** that is used within the preferred embodiment is essentially the same lens as used in the prior art device illustrated in FIG. **1** and provides a magnification of ten within the preferred embodiment. Within the preferred embodiment, the light that emerges from the objective lens **16** is reflected from a right angle mirror **9** onto a concave mirror **19** that reflects the light to a coated projection screen **5** for display as shown in FIG. **1**. Narrow aperture **26** is formed on an opaque plate that is placed on objective lens **16** within the preferred embodiment. It will be understood by those skilled in the art that narrow aperture **26** can be implemented in a different manner than illustrated in FIG. **2**. The narrow aperture is on the order of 3/16 of an inch which compares to the prior art aperture of 5/8 to 3/4 of an inch for the wide open objective lens **16** shown in FIG. **1**.

The present invention increases the depth of field from 1 mm to 4 mm. Having a depth of field on the order of 4 mm allows for complete inspection of the contact lens **25** with all portions of the contact lens being in focus at the same time.

The foregoing description has described the most preferred embodiments known to the inventors. Variations of the foregoing embodiments will be readily apparent to those skilled in the art. Accordingly, the scope of the invention should be measured by the appended claims.

The invention claimed is:

1. An inspection system for an optical device comprising:
a high intensity lamp configured with a curved reflector;
a condenser lens situated to receive light from the high intensity lamp and the curved reflector and produce a collimated beam of light;
an object retaining device configured to allow the collimated beam to be incident upon objects to be inspected;
a correction condenser lens between the condenser lens and the object retaining device, the correction condenser lens being selected to compensate for refraction caused by the object retaining device;
an objective lens operatively situated to receive light that passes through objects in the object retaining device;
a narrow aperture within an opaque surface that is placed to receive light that passes through the objective lens; and
a display device operatively connected to display light emerging through the narrow aperture.

2. The inspection system of claim **1** wherein the high intensity lamp is a metal halide lamp.

3. The inspection system of claim **1** wherein the curved reflector is an elliptical reflector.

4. The inspection system of claim **1** wherein the light from the high intensity lamp and the curved reflector converges at a secondary focal point between the condenser lens and the high intensity lamp.

5. The inspection system of claim **4** wherein the secondary focal point is located at a distance from the condenser lens essentially equal to the condenser lens' focal length.

6. The inspection system of claim **1** wherein the correction condenser lens is formed as pa~~t~~rt of the object retaining device.

7. The inspection system of claim **1** wherein the correction condenser lens is formed as part of the condenser lens.

8. The inspection system of claim **1** wherein the condenser lens has a numerical aperture that is essentially 0.9.

9. The inspection system of claim **1** wherein the object retaining device has at least one curved surface that light will pass through during inspection.

10. A method for inspecting optical devices comprising the steps of:
providing a high intensity lamp configured with a curved reflector that is situated with respect to a condenser lens such that light emerging from the high intensity lamp and the curved reflector is incident upon the condenser lens producing a collimated beam of light;
directing the collimated beam of light at an object retaining device containing optical devices to be inspected, wherein a correction condenser lens is provided between the condenser lens and the object retaining device, the correction condenser lens being selected to compensate for refraction caused byte object retaining device;
placing an objective lens to receive light t~~at~~hat passes through objects in the object retaining device;
forming a narrow aperture to receive light that passes through the objective lens; and
displaying light emerging through the narrow aperture.

11. The method for inspecting devices as in claim **10** wherein the step of providing further comprises the high intensity lamp being a metal halide lamp.

12. The method for inspecting devices as in claim **10** wherein the step of providing further comprises the curved reflector being an elliptical reflector.

13. The method for inspecting devices as in claim **10** wherein the step of providing further comprises the light from the high intensity lamp and the curved reflector converging at a secondary focal point between the condenser lens and the high intensity lamp.

14. The method for inspecting devices as in claim **13** wherein the step of providing further comprises locating the secondary focal point is located at a distance from the condenser lens essentially equal to the condenser lens' focal length.

15. The method for inspecting devices as in claim **10** wherein the step of providing further comprises the correction condenser lens being formed as part of the ~~(~~object retaining device.

16. The method for inspecting devices as in claim **10** wherein the step of providing further comprises providing the correction condenser lens being formed as part of the condenser lens.

17. The method for inspecting devices as in claim **10** wherein the step of providing further comprises providing the condenser lens with a numerical aperture that is essentially 0.9.

18. The method for inspecting devices as in claim **10** wherein the step of placing further comprises placing the object retaining device with at least one curved surface within the object retaining device.

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